

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of )  
 )  
AMERICAN RADIO RELAY LEAGUE, INC. )  
 )  
Emergency Request for a Temporary Waiver of )  
Section 97.307(f) of the Commission's Rules )

**ORDER**

**Adopted: September 14, 2018**

**Released: September 17, 2018**

By the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau:

1. *Introduction.* We have before us a request filed by the American Radio Relay League, Inc. (ARRL), for a temporary waiver to permit amateur data transmissions at a higher symbol rate than currently is permitted by section 97.307(f) of the Commission's rules, in order to facilitate hurricane relief communications relating to Hurricane Florence.<sup>1</sup> For the reasons set forth below, we grant the waiver request.

2. *Background.* Section 97.307(f) limits the symbol rate (also known as the baud rate) – the rate at which the carrier waveform amplitude, frequency, and/or phase is varied to transmit information<sup>2</sup> – for high frequency (HF) amateur radioteletype (RTTY)/data transmissions to 300 bauds for frequencies below 28 MHz (except the 60 meter band), and 1200 bauds in the 10 meter (28-29.7 MHz) band.<sup>3</sup> The digital code used to encode the signal being transmitted must be one of the codes specified in section 97.309(a) of the Commission's rules, but an amateur station transmitting a RTTY or data emission using one of the specified digital codes may use any technique whose technical characteristics have been publicly documented, such as CLOVER, G-TOR, or PACTOR.<sup>4</sup>

3. In 2016, in response to an ARRL petition for rulemaking, the Commission proposed to remove the symbol rate limitations, which it tentatively concluded had become unnecessary due to advances in modulation techniques and no longer served a useful purpose.<sup>5</sup> That proceeding is currently pending, but there is consensus among submitted comments for eliminating the symbol rate limits.

4. ARRL states that it is shipping PACTOR radio modems to the Carolinas for use in connection with Hurricane Florence disaster relief communications.<sup>6</sup> It requests a waiver of section

<sup>1</sup> E-mail from Christopher Imlay, General Counsel, ARRL to Scot Stone, FCC (Sept. 12, 2018 13:27 EDT) (Waiver Request); see 47 CFR § 97.307(f).

<sup>2</sup> *Amendment of Part 97 of the Commission's Amateur Radio Service Rules to Permit Greater Flexibility in Data Communications*, Notice of Proposed Rulemaking, 31 FCC Rcd 8485, 8485, para. 1 (2016) (*Baud Rate NPRM*).

<sup>3</sup> 47 CFR § 97.307(f)(3), (4). In the 60 meter (5.3305-5.4064 MHz) band, there is no maximum symbol rate, but bandwidth is limited to 2.8 kilohertz for data and 60 hertz for RTTY. See 47 CFR § 97.307(f)(14).

<sup>4</sup> 47 CFR §§ 97.307(f)(3), (4), 97.309(a)(4). CLOVER, G-TOR, and PACTOR are different techniques used to increase the efficiency of digital communications. *Baud Rate NPRM*, 31 FCC Rcd at 8486, n.18.

<sup>5</sup> See *Baud Rate NPRM*, 31 FCC Rcd at 8458, para. 8.

<sup>6</sup> See Waiver Request.

97.307(f) to permit higher speed data transmissions in order to facilitate more effective communications. In particular, it seeks a waiver to permit transmissions using PACTOR 4 that exceed the current symbol rate limitations.<sup>7</sup> The request is made by ARRL to enable licensed radio amateurs who are directly involved with HF hurricane relief communications to better serve the affected areas.<sup>8</sup>

5. *Discussion.* To obtain a waiver of the Commission's rules, a petitioner must demonstrate either that (i) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the present case, and that a grant of the waiver would be in the public interest; or (ii) in view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.<sup>9</sup> We conclude that ARRL's request should be granted.<sup>10</sup>

6. ARRL has already dispatched communications equipment to the Carolinas to conduct disaster relief communications.<sup>11</sup> While PACTOR 4 modems are downward-compatible with slower speed versions of PACTOR, ARRL asserts that the higher data rates offered by PACTOR 4 emissions are critical to sending hurricane relief communications.<sup>12</sup>

7. We conclude that granting the requested waiver is in the public interest. Hurricane Florence is expected to cause substantial damage in the southeast United States, and communications services will be disrupted.<sup>13</sup> Thus, to accommodate amateur radio operators assisting in the recovery efforts, we grant ARRL's waiver request for the period of 30 days from the release date of this *Order*. The waiver is limited to amateur radio operators using PACTOR 4 emissions in the continental United States who are directly involved with HF hurricane relief communications.

8. Accordingly, IT IS ORDERED that pursuant to section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and section 1.925 of the Commission's rules, 47 CFR § 1.925, the Emergency Request for a Temporary Waiver of Section 97.307(f) of the Commission's Rules filed by the American Radio Relay League, Inc. on September 12, 2018, IS GRANTED as set forth above.

9. This action is taken under delegated authority pursuant to sections 0.131 and 0.331 of the Commission's rules, 47 CFR §§ 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

Scot Stone  
Deputy Chief, Mobility Division  
Wireless Telecommunications Bureau

<sup>7</sup> See *id.* PACTOR 4 has a symbol rate of 1800 bauds. *Baud Rate NPRM*, 31 FCC Rcd at 8486, para. 6.

<sup>8</sup> See Waiver Request.

<sup>9</sup> 47 CFR § 1.925(b)(3).

<sup>10</sup> We granted a similar request in 2017 with respect to hurricane relief communications between the continental United States and Puerto Rico. See *American Radio Relay League*, Order, 32 FCC Rcd 7428 (WTB MD 2017).

<sup>11</sup> See Waiver Request.

<sup>12</sup> See *id.*

<sup>13</sup> See, e.g., FCC Chairman Pai Statement on Hurricane Florence (Sept. 12, 2018), <https://www.fcc.gov/document/chairman-pai-statement-hurricane-florence>.